

ROGOVIN, Z. A.

AID P - 269

Subject : USSR/Chemistry
Card : 1/1
Author : Rogovin, Z. A. (Moscow)
Title : New developments in the manufacture and uses of
synthetic fibers
Periodical : Usp. khim. 23, No. 3, 295-313, 1954
Abstract : New methods of modifying the properties of monomers and
some new types of synthetic fibers (Orlon, Vinyon N,
Dynel, Acrilan, X 51, Fibrovyl and Kuralon) are dis-
cussed. Thirteen diagrams. Ten tables. 23 references
(3 Russian): 1941-1953.
Institution : None
Submitted : No date

ROGOVIN, Z. A.

FD 198

USSR/Chemistry - Cellulose Acetate Production

Card 1/1

Authors : Rogovin, Z. A., Chernysheva, N., and Konkin, A. A.

Title : Acetylation of cellulose in the presence of phosphoric acid

Periodical : Khim. prom. 4, 40-41 (232-233), June 1954

Abstract : Established that phosphoric acid can be used as a catalyst in the acetylation of cellulose and in the partial saponification of triacetylcellulose in a homogeneous medium. One foreign reference is listed. 3 tables.

Institution : Moscow Textile Institute

ROGOVIN, Z. A.

"New Development in the Manufacture and Use of Synthetic Fibers,"

Uspekhi Khimii Vol 23 No. 3, 54

B-82881, 21 Feb 55 - Excerpts.

ROGOVIN, Z.A.

2/ Comparative investigation of the rate of hydrolysis of cellulose, monocarboxycellulose, alginic, and pectinic acids. A. A. Konkin, G. S. Smirnova, and Z. A. Rogovin. *Nauch.-Issledovatel. Trudy Goskhoz. Tekstil. Inst.* 13, 69-100 (1951); Referat. *Zhur., Khim.* 1955, No. 4823. — Replacing the alc. group at C-atom 6 by a CO₂ group did not materially affect the resistance of the glucosidic bond to acid. The various distributions of OH groups in the primary links of macromols. of polyuronic acids had no noticeable effect on the resistance of the glucosidic bond to acid. M. Hosen

pm

Rogovin, Z. A.

Mechanism of formation of viscose fibers. Z. A. Rogovin, N. S. Volkova, and G. G. Finger. *Tekstil. Prom.* 14, No. 3, 15-18(1954).--Both the nature and amt. of sulfates in the spinning bath affect the properties of viscose fiber (I) formed; Na_2SO_4 gives a I with better over-all performance (higher tenacity, elongation, and no. of twists before break). The best I is obtained with a bath contg. Na_2SO_4 280, $(\text{NH}_4)_2\text{SO}_4$ 15, and ZnSO_4 13 g./l. It is believed that the sulfate, besides decreasing the disson. of H_2SO_4 , which slows down the decompn. of xanthogenate and leads to a more uniform I, dehydrates the swollen gel of cellulose hydrate. The more intensive the dehydration during formation of I, the more compact and uniform is the structure of I, which will then have better mech. properties. The Na ion with its large hydrate layer is a better dehydrating agent than an equimol. amt. of NH_4 ion. Small amts. of ZnSO_4 (1-5 g./l.) added to the bath contg. 280 g. Na_2SO_4 g./l., markedly increase the resistance of I to multiple deformation.

Elisabeth Barabash

Rogovin, Z. A.

AID P - 1309

Subject : USSR/Chemistry

Card 1/1 Pub. 119 - 3/5

Author : Rogovin, Z. A. (Moscow)

Title : Some problems of the modern chemistry of cellulose

Periodical : Usp. khim., 23, no. 8, 943-966, 1954

Abstract : The structure and properties of celluloses of various origin are reviewed, as well as the effect of various reagents on the reactivity and solubility of cellulose and of its esters. Seven tables, 2 diagrams, 73 references (29 Russian: 1936-1954).

Institution : None

Submitted : No date

ROGOVIN, Z. A.

✓ The process of formation of furfural from polyuronic acids.
V. P. Kiseleva, A. A. Konkin, and Z. A. Rogovin, *J. Chem. Appl. Chem. U.S.S.R.* 27, 1073-6 (1954) (Engl. translation).
—See C.A. 49, 2840b. B. M. R.

ROGOVIN, Z. M.

USSR:

The process of formation of furfural from polyuronic acids. V. P. Kiseleva, A. A. Koukin, and Z. A. Bozoyan. *Zhur. Priklad. Khim.* 27, 1133-6(1954).—The rates of the elementary reactions involved in the formation of furfural from pectic (polygalacturonic) acid and monocarboxycellulose (polyglucuronic acid) were measured. The rates were detd. with the use of 20.2% HCl catalyst, by measurement of the evolution of CO₂, whereas the dehydration step was detd. by isolation of furfural. Hydrolysis of monocarboxycellulose at 110° could not be detd. owing to rapid decarboxylation. The rate const. (at 110°) for hydrolysis of monocarboxycellulose was estd. at $128 \times 10^{-3}/\text{min.}$; that for decarboxylation was 26.7×10^{-3} ; the const. for dehydration of xylose was 133×10^{-3} ; the const. for decarboxylation of pectic acid was 34.8×10^{-3} ; that for decarboxylation of arabinose was $52.1 \times 10^{-3} \text{ min.}^{-1}$. In formation of furfural the decarboxylation reaction of polyuronic acids is slower than the dehydration reaction, which causes a lowered yield of furfural from mono- and polyuronic acids, in comparison with the corresponding pentoses. Conditions that tend to equalize the reaction rates of the 2 processes raise the yield of furfural. The yield of furfural from polyuronic acids after their treatment with NO₂ is decreased. In 20.2% HCl at 110° the yield of furfural is 42% from pectic acid, 14.3% from monocarboxycellulose. G. M. K.

Rogovin, Z.A.

1004
2 May

Study of structure and properties of cellulose and its esters. II. The properties of galactan and cellulose and their esters. L. M. Vinogradova, A. A. Konkin, and Z. A. Rogovin. *J. Appl. Chem. U.S.S.R.* 27: 1239-1246 (1954). (English translation). - See *C.A.B.* 49, 92801. B. M. R.

USSR

Study of structure and properties of cellulose and its esters. LI. The properties of galactan and cellulose and their esters. L. M. Vinogradova, A. A. Konkin, and Z. A. Rogovin (Moscow Textile Inst.). *Zhur. Priklad. Khim.* 27: 1842-8 (1954); cf. C.A. 49, 4637c. — The influence of the OH group at C atom 4 on the properties of cellulose (I) and galac-

tan (II) of about the same mol. wt. and the same degree of polymerization (100 and 120, resp.) was studied. II was obtained from the pectins of the seeds of *Lupinus albus* by a modified method of Hirst, *et al.* (C.A. 42, 1203e). The properties were as follows: I was insol. in H₂O and its heat of swelling in 96% EtOH was 7.0 cal./mol.; II was sol. and its heat of swelling was 10.9 cal./mol.; the H₂O absorption at 25° of II was 40-50% higher than that of I; acetylation of II was completed in 0.5 hr., that of I in 8.5 hrs.; the trinitrate of I was completely sol. in Me₂CO, that of II only 4.5% sol. The trinitrates were prepd. at 0° with a mixt. contg. HNO₃, 45, H₃PO₄, and P₂O₅ 10 wt. %.

I. B.

31

ROGOVIN, Z.A.

✓ 64. Uspekhi Khimii i Tekhnologii Polimerov.
Sbornik. I. Progress in Chemistry and Technology
of Polymers. I. Z. A. Rogovin, editor. U.S.S.R.
Vsesoyuznoe Khimicheskoe Obshchestvo im D. I.
Mendeleeva. Moscow: Goskhimizdat, 1955, pp. 176.
This first issue of a new serial publication contains
papers by K. A. Andrianov and V. I. Kalitvanskii
on the use of polymers in the electrical industry;
B. K. Karmin on the basic types of synthetic
rubber; Z. A. Rogovin on cellulose esters; G. S.
Petrov on combined polycondensation resins; A. A.
Berlin on polymers of certain heterocyclic oxygen
compounds; A. I. Lazarev on synthetic polymers
for lacquers and coatings; G. S. Petrov on adhesives
based on combined polycondensation resins; A. A.
Berlin on gas-filled high-molecular materials; a
shortened translation of the original of *Rubb. Abs.*,
1954, abs. 4882; and reviews including one with 130
references of almost entirely Western origin, on
irradiation of monomers and high polymers. 38

ROGOVIN, Z.A., professor, doktor tekhnicheskikh nauk; BELYAYEVA, Z.F.,
redaktor; GERASIMOVA, Ye.S., tekhnicheskiiy redaktor.

[Chemistry and technology of synthetic fibers; a collection]
Khimiia i tekhnologiya iskusstvennykh volokon; sbornik. Moskva,
Izd-vo inostranoi lit-ry, 1955. 212 p. (MIRA 9:6)
(Textile fibers, Synthetic)

ROGOVIN, Z.A.

Structure and properties of cellulose and its esters. Effect of character and position of functional groups in the elementary unit on stability of acetal linkage in molecules of di- and polysaccharides. Z. A. Rogovin, A. A. Konkin, and Yu. A. Rymashevskaya. *Voprosy Khim. Kinetiki, Kataliza i Reaktsionnoi Sposobnosti, Akad. Nauk S.S.S.R., Otdel. Khim. Nauk* 1955, 821-32; cf. C.A. 49, 9269; following abstr.—Replacement of the 1-CHO group by CO₂H greatly stabilizes the acetal linkage to hydrolysis in basic soln. CO₂H in the 6-position does not change the stability of acetal toward acids, but 1,8-dicarboxylation greatly accelerates hydrolysis under all conditions. Absence of the primary HO group reduces hydrolytic stability 3-4-fold. Increase of concn. of cellulose in aq. H₂SO₄ greatly reduces the rate of hydrolysis. G. M. Kosolapoff.

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ROGOVIN, Z. A.

Novelties in the preparation and uses of the esters and
ethers of cellulose. Z. A. Rogovin. *Uspekhi Khim.* i
Polymerov 1, 38-54 (1966).—A review covering properties
and uses of esters and ethers of cellulose. 15 references.
I. Vebra

409

ROGOVIN, Z.A.

DEREVITSKAYA, V.A.; KOZLOVA, Yu.S.; ROGOVIN, Z.A.

Investigating the comparative reactivity of the hydroxyl groups of
cellulose. Soob.o nauch.rab.chl.VKHO no.3:9-12 '55. (MIRA 10:10)
(Hydroxyl group) (Cellulose)

ROGOVIN, Z. A.

FD-3015

USSR/Chemistry - High polymers

Card 1/1 Pub. 50 - 16/17

Author : Rogovin, Z. A.

Title : ~~New work on the chemistry of polymers~~ (Foreign developments)

Periodical : Khim. prom. No 6, 369-372, Sep 1955

Abstract : On the basis of foreign publications, reviews new methods of modifying the properties of polymers by inducing branching with the aid of ultrasound, the synthesis of hydroaromatic polyesters, work on new types of polymers and elastomers containing fluorine, and polymerization and polymers of cyanic acid. Eighteen references; one USSR, since 1940.

ROGOVIN, Z.A., professor

New publications on viscose fiber production. Tekst.prom. 15
no. 7:44-48 J1'55. (MIRA 8:10)

(Bibliography--Rayon)

Rogovin Z.A.

CH The preparation of synthetic carbon-chain fibers. II. The mechanism of the thermorelaxation process of carbon-chain fibers. Z. A. Zazulina and Z. A. Rogovin (Moscow Textile Inst.). *Kolloid. Zhur.* 17, 343-6 (1955). "Saniv";

2 my

a copolymer of $\text{CH}_2\text{:CHCN}$ and $\text{CH}_2\text{:CCl}_2$, was stretched 300% at 160° ; this raised its breaking load B 3.3 fold, but lowered its total elongation l to 0.3 the initial value; its degree Δ of orientation (from x-ray patterns) was greatly increased. Subsequent "relaxation" at 120° for one hr. raised B by an addnl. 10%, increased l to about 0.6 the initial value, and decreased Δ ; when the filament length was kept const. during the relaxation, the increase of B was even greater, but the changes in l and Δ were smaller. The heats Q of soln. of 1 g. "Saniv" in COMe_2 were 6.7, 3.8, 3.0, and 2.9 cal. before stretching, after stretching, after relaxation at variable length, and after relaxation at const. length, resp. Also the heat of swelling of "Saniv" in $(\text{CH}_2\text{Cl})_2$ was least after relaxation. The decrease of Q during relaxation shows that intermol. forces are intensified by relaxation although Δ decreases.

J. J. Bikerman

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ROGOVIN, Z. A.

2 Structure and properties of cellulose and its esters. Effect of the treatment conditions of cellulose on the change in its reactivity in the process of viscose formation. Z. A. Rogovin, N. V. Shulyatikova, V. P. Kiseleva, and A. G. Yashunskaya. *Colloid J. (U.S.S.R.)* 17. 437-40(1955) (Engl. translation).—See *C.A.* 50, 4490d. B. M. R.

ROGOVIN, Z.A.; SHULYATIKOVA, N.V.; KISELEVA, V.P.; YASHUNSKAYA, A.G.

Effect of conditions for processing cellulose on its reactivity
in viscose formation. Koll.shur.17 no.6:452-455 N-D '55.

(MLRA 9:4)

1.Vsesoyuznyy nauchno-issledovatel'skiy institut iskusstvennogo
volokna, Laboratoriya tsellyulozy.
(Cellulose)

ROGOVIN, Z.A.

Comparative study of the rate of hydrolysis of xylan and cellulose. A. A. Konkin, N. I. Kaplan, and Z. A. Rogovin. *J. Appl. Chem. U.S.S.R.* 28, 693-7 (1955) (Engl. translation).—See *C.A.* 49, 14316c.

(2)

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AID P - 3571

Subject : USSR/Chemistry

Card 1/1 Pub. 152 - 8/20

Authors : Konkin, A. A., N. I. Kaplan, and Z. A. Rogovin

Title : Comparative study of the hydrolysis rate of xylane and cellulose

Periodical : Zhur. prikl. khim., 28, 7, 729-734, 1955

Abstract : The rate of hydrolysis of xylane in a homogeneous medium is 3.75 times greater than that of cellulose. In a heterogeneous medium, the hydrolysis of xylane proceeds 70-75 times more rapidly than that of cellulose. Three tables, 15 references, 10 Russian (1948-1953).

Institution : Moscow Textile Institute. Chair of Artificial Fibers

Submitted : N 22, 1953

ROGOVIN, Z. A.

USSR/Chemistry - Synthetic substances

Card 1/1 Pub. 86 - 14/36

Authors : Rogovin, Z. A., Prof., Dr. Med. Sc.

Title : ~~Chemical fibers~~
New synthetic fibers

Periodical : Priroda 44/6, 93 - 95, Jun 1955

Abstract : A study is made of the development, manufacture, and use of artificial fibers, particularly of synthetic fibers. The molecular structure of these is explained and a comparison is made of the durability of the different kinds. A fiber called "orlon" (polyacrylnitryl) is found to have several times the durability of other known synthetic fibers. The process of its synthetization is explained. Diagram.

Institution :

Submitted :

ROGOVIN, Z. A.

Distr: 4E4j/4E2c(j)

Properties of concentrated (spinning) solutions of acrylonitrile-vinylidene chloride copolymers. Z. A. Rogovin, Z. A. Rogovin, and G. V. Vinogradov. *Colloid J. (U.S.S.R.)* 18, 671-5 (1956) (English translation).--See C.A. 51, 6282b. B. M. R.

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Rogovin, Z. A.

Properties of concentrated (spinning) solutions of acrylonitrile-vinylidene chloride copolymers. Z. A. Zazulina, Z. A. Rogovin and G. V. Vinogradov (Textile Inst., Moscow). *Kolloid. Zhur.* 18, 674-5 (1956). Curves of τ/D vs. τ were obtained in the spring viscometer (C.A. 47, 3084k); τ is shearing stress, D = av. velocity gradient. From these curves the velocity gradient D at the capillary wall was calculated from equation $D/D_0 = 3 + d \ln D / d \ln \tau$. Three solns. of "Saniv" (= copolymer of $\text{CH}_2=\text{CHCN}$ and $\text{CH}_2=\text{CHCl}$) in Me_2CO were compared; they had identical τ/D at $\tau \approx 10^4$ dynes/sq.cm. but had mol. wts. of 130,000 (A), 290,000 (B), and 620,000 (C), and concns. of 22% (A), 12.5% (B), and 8.5% (C). When τ increased, τ/D of C increased most, and of A least rapidly; the structure of C was almost destroyed at 25,000 dynes/sq.cm., whereas that of B started to collapse at about $\tau = 10^4$. A temp. increase from 25° to 45° lowered the τ needed for destruction of the structure by a factor of 2. The results are insufficient to predict the behavior during spinning, but fibers made of C were weaker than those made of A or B.

J. J. Bikerman.

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Rogovin, Z.A.

Means and prospects of technical development for production of chemical fibers. Z. A. Rogovin. *Khim. Nauka i Prom.* 1, No. 1, 8-24 (1964). The properties, methods of production, possible improvements and means and prospects of increasing output of artificial fibers in the Soviet Union are discussed. Suitability of viscose, acetate, polyamide, polyester, and polyacrylonitrile fibers is critically reviewed for the increased production. A no. of fundamental research problems are pointed out, such as influence of functional groups of polymers and copolymers on final properties of their fibers, thermal stability at higher temp., and optimum structure of fibers. Attention is given to polyamides as a major source for production of synthetic fibers. R. stresses the necessity of intensive research for new fibers with different properties that could fill in the gaps in the applications of the existing fibers. The necessary prepur. for increased production of chem. fibers are discussed with reference to improved methods and new machinery. It is estd. that by 1967 the production of artificial fibers in the Soviet Union will be increased to 330,000 tons.

Paul Palivoda

chem. 1. 2
M.A. YOUTZ
Scopes

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Rogovin, Z. A.

✓ Preparation of synthetic linear (carbon to carbon) fibers.
I. Effect of the molecular weight of the wet spun copolymer
Saniv on the latter's properties and formation. Z. A.
Zazulin and Z. A. Rogovin, Tekstil. Prom. 16, No. 2,
19-20 (1959). Copolymer Saniv, prepd. by emulsion
polymerization of acrylonitrile and vinylidene chloride, was
fractionated from a 1% Me₂CO soln. by EtOH pptn. yield-
ing 3 fractions with mol. wt. of 820,000; 290,000; and 130,
000, resp. The wet spinning was carried out at 52°, the
H₂O bath contg. 4% Me₂CO. Decreasing the mol. wt. to
a certain optimum value facilitates the formation of fiber
and improves its properties (cf. Staudinger, *et al.*, *C.A.* 42,
5660b). Elisabeth Barabash

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Releving, Z. A.

USSR/Chemical Technology. Chemical Products and Their Application -- Synthetic fibers, I-24

Abst Journal: Referat Zhur - Khimiya, No 2, 1957, 633⁴

Author: Rogovin, Z. A., Shulyatikova, N. V., Gorodetskaya, L. A.

Institution: None

Title: Forming of Fibers from Viscose Solutions Produced from Cellulose Xanthogenate of a Low Degree of Esterification

Original
Publication: Tekstil'naya prom-st', 1956,¹⁶ No 7, 18-22

Abstract: To obtain viscose solutions of normal filterability, on utilizing cellulose xanthogenate of low degree of esterification, the coefficient of alkali cellulose depression had to be 2.5-2.65, and temperature of xanthogenate dissolution was lowered to 0-40. With equal indices of ripening, viscose solutions prepared by dissolution of low ester xanthogenates contain xanthogenate of lower γ , than is usual, which is due to a decreased content of thiocarbonates in the viscose. Fibers of good mechanical properties can be

Card 1/2

USSR/Chemical Technology. Chemical Products and Their Application -- Synthetic fibers, I-24

Abst Journal: Referat Zhur - Khimiya, No 2, 1957, 633⁴

Abstract: obtained from such solutions of viscose on forming the fiber in a spinning bath containing H_2SO_4 88-105 g/liter, Na_2SO_4 260-270 g/liter, $ZnSO_4$ 35-45 g/liter, at 45°; ripeness of spinning solutions 9-10 cm³ NH_4Cl .

Card 2/2

DEREVITSKAYA, V.; KOZLOVA, Yu.; ROGOVIN, Z.

Study of the configuration and properties of cellulose. Part 56. Study of the comparative reactivity of hydroxyl groups in cellulose. Distribution of methyl groups in partially methylated cellulose prepared in alkali. Zhur.ob.khim.26 no.5:1466-1471 My '56. (MLRA 9:9)

1.Moskovskiy tekstil'nyy institut.
(Cellulose)

ROGOVIN, Z. A.

me ✓ Structure and properties of cellulose. LVI. Comparative reactivity of hydroxyl groups of cellulose. Distribution of methoxyl groups in partly methylated cellulose obtained in alkaline medium. V. Derevitskaya, Yu. Kozlova, and Z. Rogovin. *J. Gen. Chem. U.S.S.R.* 26, 1049-54(1950). (English translation).—See *C.A.* 50, 16103g. B. M. R.

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NESMEYANOV, A.N.; KNUNYANTS, I.L.; SHERMYAKIN, M.M.; BOGOSLOVSKIY, B.M.;
SKURATOV, S.M.; KONKIN, A.A.; DEREVITSKAYA, V.A.; ROGOVIN, Z.

In memory of A.A. Strepikheev; obituary. Zhur.ob.khim.26 no.11:3224-
3226 N '56. (MLRA 10:1)
(Strepikheev, Aleksandr Aleksandrovich, 1912-1955)

ROGOVIN, Z.

✓ *Metho*
Chem Structure and properties of cellulose. LVII. Comparative reactivity of hydroxyl groups of cellulose. 2. Distribution of methoxyl groups in partly methylated cellulose prepared in basic medium. V. Derevitskaya, Yu. Kozlova, and Z. Rogovin (Textile Inst., Moscow). *Zhur. Obshchei Khim.* 26, 3369-74 (1958); *Ch. C.A.* 51, 7709c. —Partly methylated cellulose prepd. from MeI and Me₂SO₄ and cellulose in the presence of Et₃(PhCH₃)NOH (I), or from methylation of a Na-Cu deriv. of cellulose was examd. by iodate oxidation method. In the presence of I the secondary HO groups (II) of cellulose are more reactive so that approx. twice as many MeO groups are formed on these groups as on the primary ones. The Na-Cu deriv. of cellulose, prepd. by treatment of viscose silk with aq. CuCl₂ 10-15 min., followed by wringing, suspension in toluene, and treatment with 35% NaOH 4 hrs. at 0°, on methylation with MeI (20-36 hrs. at 40° and 26 hrs. at 20°), or with Me₂SO₄ (30-6 hrs. at 35-40° and up to 36 hrs. at 20°), reacts more selectively so that almost all the reaction occurs at II. In the presence of I the methylation with Me₂SO₄ results in nearly equal distribution of MeO groups between C₂ and C₃ positions; with MeI treatment, however, there is tendency for the MeO groups to be located primarily at one of the secondary C atoms. The results indicate that the reaction occurs at HO groups which had the opportunity to react with the base in the suspending medium. LVIII. Comparative reactivity of hydroxyl groups of cellulose. 3. Distribution of methoxyl groups in partially methylated cellulose obtained by methylation of cellulose with diazomethane. *Ibid.* 3374-6. —Treatment of 1 g. dry viscose silk with 100 ml. Et₂O soln. of 0.5M CH₃N₂ contg. 2.5 ml. H₂O at 2° for up to 80 hrs.

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DEREVITSKAYA, V., KOZLOVA, YU., ROGOUN, Z.

gave a range of methylated cellulose specimens. These, analyzed by tritylation and oxidation with HIO_4 , showed that the II are most reactive with CH_3N_3 . The no. of II which are thus methylated is 2 times that found on primary HO groups. As the result of oxidation of free glycolic groups it was shown that the MeO groups tend to be located primarily at one of the secondary C atoms. G. M. K.

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ROGOVIN, Z.

DEREVITSKAYA, V.; KOZLOVA, Yu.; ROGOVIN, Z.

Relative reactivity of cellulose hydroxyl groups. Part 3. Distribution of methoxy groups in partially methylated cellulose obtained by cellulose methylation by diazomethane. Zhur.ob.khim. 26 no.12:3374-3376 D '56. (MLRA 10:7)

1. Moskovskiy tekstil'nyy institut.
(Cellulose) (Methylation)

ROGOVIN, Z. A.

USSR/Chemical Technology. Chemical Products and Their Application -- Wood chemistry products. Cellulose and its manufacture. Paper, I-23

Abst Journal: Referat Zhur - Khimiya, No 2, 1957, 6277

Author: Yashunskaya, A. G., Rogovin, Z. A., Berlin, A. A.

Institution: None

Title: Investigation of the Conditions of Preparation of Carboxyethyl Cellulose

Original

Publication: Zh. prikl. khimii, 1956, 29, No 1, 105-110

Abstract: Into a mixture of a solution of alkali and acrylonitrile (I) was added cellulose (C). After stirring for 40-45 minutes at 30-35° the reaction mixture was cooled to -5° and held at this temperature for 1-1.5 hour after which it was heated to 25°. After stirring for 4-6 hours, reckoning from the start of the treatment, a solution of carboxyethyl cellulose (CEC) was obtained. With a concentration of the NaOH solution of less than 2% the reaction of cyanoethylation proceeds very slowly. An increase in the concentration of NaOH

Card 1/2

USSR/Chemical Technology. Chemical Products and Their Application -- Wood chemistry products. Cellulose and its manufacture. Paper, I-23

Abst Journal: Referat Zhur - Khimiya, No 2, 1957, 6277

Abstract: above 8% does not increase substantially the degree of esterification (DE). Factors which accelerate the hydrolysis [increase in temperature (450), increase of the amount of alkali in the reaction mixture], lower the DE of C. On increase of the amount of NaOH solution from 10 to 50 ml, per 1 g C, the content of COOH groups in CEC decreases from 7.0 to 2.87%. Use of alkali C, produced by mercerization followed by pressing, comminution and pre-ripening, has made it possible to prepare CEC by direct action of I on alkali C, and to increase thereby considerably the utilization of I, in the primary reaction of esterification, from 10-22% to 46-63%. Maximum DE -- total $\gamma = 95.1$ (0.19% COOH groups, 6.22% nitrogen), was attained in 3 hours with expenditure of 1.5 mole I per unit C linkage. CEC prepared from sulfite wood C (degree of polymerization 300-400), dissolves in 7-10% solution of NaOH, with a 6-7% content of COOH groups ($\gamma = 26-30$). CEC prepared from reprecipitated C (viscose rayon), dissolves in 4-8% solution of NaOH with a 3-4% content of COOH groups ($\gamma = 12-15\%$).

Card 2/2

BOGOLIN, S. A., and SABULINA, S. A.

"Fluorine containing polyacrylonitrile fibers (Fluorlon)," a paper presented at the 9th Congress on the Chemistry and Physics of High Polymers, 28 Jan-2 Feb 57, Moscow, Textile Research Inst.

B-3,004,305

ROGOVIN, S. A., PROKOP'YEVA, M., and DEREVITSKAYA, V. A.

"Reactivity of the OH-groups of cellulose during methylation," a paper presented at the 9th Congress on the Chemistry and Physics of High Polymers, 28 Jan-2 Feb 57, Moscow, Textile REsearch Inst.

B-3,024,395

ROGOVIN, S. A., DERLEVITSKAYA, V. A., KOZLOVA, Y. S.

"Cellulose methylethers," a paper presented at the 9th Congress on the Chemistry and Physics of High Polymers, 28 Jan-2 Feb 57, Moscow, Textile Research Inst.

B-3,084,395

ROGOVIN, ZAKHAR ALEKSANDROVICH

PHASE I BOOK EXPLOITATION

393

Rogovin, Zakhar Aleksandrovich

Osnovy khimii i tekhnologii proizvodstva khimicheskikh volokon (Principles of the Chemistry and Technology of Producing Man-made Fibers) 2d ed., rev. and enl. Moscow, Gizlegprom, 1957. 743 p. 5,000 copies printed.

Reviewers: Pakshver, A. B., Doctor of Technical Sciences, Professor, and Meos, A. I., Doctor of Technical Sciences, Professor; Ed.: Lioznov, A. G.; Tech. Eds.: Dmitriyeva, N. I., and Kogan, V. V.

PURPOSE: This is a textbook for students of higher technical schools specializing in the field of artificial and synthetic fiber technology, and a practical guide for engineers and technicians working with chemical fibers.

COVERAGE: The first edition was published in 1952. The chapter on the production of fibers from polyuronic acids has been omitted in the second edition because the method has not proved to be advantageous. The book consists of three parts: Part I deals with general principles and production methods for all man-made fibers, Parts II and III discuss the production of specific types of artificial and synthetic fibers. Artificial fibers are manufactured by treating natural high molecular weight

Card 1/22

Principles of the Chemistry (Cont.)

compounds such as cellulose or proteins. Synthetic fibers are manufactured from synthetic polymers. Scientific and technological progress in the production of man-made fibers (artificial fibers from cellulose, protein fibers from casein and zein, synthetic fibers, i.e., Nylon, Terylene, Vinyon, Perlon, Kuralon, "Enant" fiber, Teflon, "Ftorlon", etc.) and their uses are discussed in great detail. A method of obtaining a new type of polyamide and a polyamide fiber "Enant" was developed by A. N. Nesmeyanov, A. A. Strepikheyev, and R. Kh. Freydina (1951-1955). The following polyamide fibers manufactured from polymers with regular structure are mentioned. 1. Fibers from polycaprolactam: Capron (USSR), Perlon (GDR), "Silon" (SCR), Nylon 6 (USA); 2. Fibers from polyamide formed by polycondensation of hexamethylene diamine and adipic acid: Nylon 66 (USA, Great Britain, Italy), "Anid" (USSR); 3. Fibers from polyamide formed by condensation of hexamethylene diamine and sebacic acid: Nylon 6, 10 (USA); 4. Fibers from polyaminoundecanoic acid: Nylon 11 (USA) and "Rilsan" (France); 5. Fibers formed from a polycondensation product of aminoanthic acid "Enant" (USSR). Fibers manufactured from polymers not having regular structure: 1. Fibers from a product obtained by joint polycondensation of adipic acid and hexamethylene diamine with caprolactam "Eftrelon" (GDR); 2. Fibers from a product obtained by joint polycondensation of terephthalic acid and hexamethylene diamine with caprolactam: "Vetrelon" (GDR).

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Principles of the Chemistry (Cont.)

Polyester fibers: Terylene (Canada, Great Britain); Dacron (USA, Italy); Lavan" (USSR, in the experimental stage) and "Lanon" (GDR). Fibers having a carbon chain: Fibers from polymers and copolymers of acrylonitrile: 1. Polyacrylonitrile fibers: Orlon, Nitron, PAN (panfaser); 2. Fibers from acrylonitrile copolymers containing a second component: Acrilan, Creslon; 3. Fibers from acrylonitrile copolymer and vinyl chloride: Vinyon N, Dynel; B. Fibers from polymers and copolymers of vinyl chloride: 1. Polyvinyl chloride fiber: Rhovyl, "Movil", "Thermovil", PCU; 2. Fibers from chlorinated polyvinyl chloride: Pe-Ce, "Khlorin"; from a copolymer of vinyl chloride and vinylidene chloride: Saran. The polyacrylonitrile fiber Orlon (USA) is manufactured in the GDR under the names Panfaser (Frankfurt on-the-Main), Redon (Hamburg), Dralon (Dormagen), Dolon (Kelheim) Volkrilon" (Wolfen), "Prelana" (Prennitz); in France: "Grillon". In the USSR, fibers from polyacrylonitrile are manufactured under the name "Nitron". A method for the production of the fiber "Saniv" from a vinylidene chloride copolymer was developed by Z. A. Rogovin and Z. A. Zazulina. Fibers from fluorine-containing polymers: Teflon from polytetrafluoroethylene and "Ftorlon" developed by Z. A. Rogovin and Z. A. Zazulina in the USSR. Fibers from polyvinyl alcohol: "Vinyon" or "Kuralon" (Japan). Fibers from isotactical polymers are also mentioned. The author thanks the following scientists for their contributions: A. B. Pakshver, A. I. Meos. Ye. M. Mogilevskiy, A. A. Konkin, and A. G. Lioznov.

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Principles of the Chemistry (Cont.)

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The following facilities are mentioned: Vsesoyuznyy nauchno-issledovatel'skiy institut iskusstvennogo volokna (All-Union Scientific Research Institute of Artificial Fibers), Gosudarstvennyy institut proyektirovaniya predpriyatiy iskusstvennogo volokna (State Institute for Designing Plants for Manufacturing Artificial Fibers), Kalininskiy, Kamenskiy, Kiyevskiy, Klinskiy kombinaty (Kalinin, Kamensk, Kiyev, and Klin Combines), Serpukhovskiy zavod iskusstvennogo volokna (Serpukhov Artificial Fiber Plant). There are 368 references of which 155 are Soviet, 127 German, 72 English, and 14 Scandinavian.

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PART 1. GENERAL PRINCIPLES AND METHODS OF PRODUCTION OF CHEMICAL FIBERS

Ch. I. History of Development and Present Status of Chemical Fiber
Production

1. Development of artificial and synthetic fiber industry
2. Artificial and synthetic fiber industry in the USSR

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ROGOVIN, Z.A.

New methods of modification of the properties of cotton fiber. Usp.
khim. i tekhn. polim. no.2:97-109 '57. (MIRA 11:1)
(Cotton)

Rogovin, Z.A.

Structure and properties of cellulose. LXVI. Preparation of carbonic esters of cellulose. Z. A. Rogovin, Yu. S. Karlova, and V. A. Derevitskaya (Textile Inst. Moscow). *Khim. Nauka i Prom.*, 2, 264 (1957); *cf. C.A. 51, 9145a.* The cellulose ester of methyl carbonic acid (1) was obtained from cellulose alcoholate and ClCOOMe. The 2 reagents were periodically shaken in sealed tubes 70-140 hrs. at room temp. The product was filtered, washed at first with MeOH till free of Cl⁻ and then with Me₂CO.

5

4E3d

4E4j

4E2c(i)

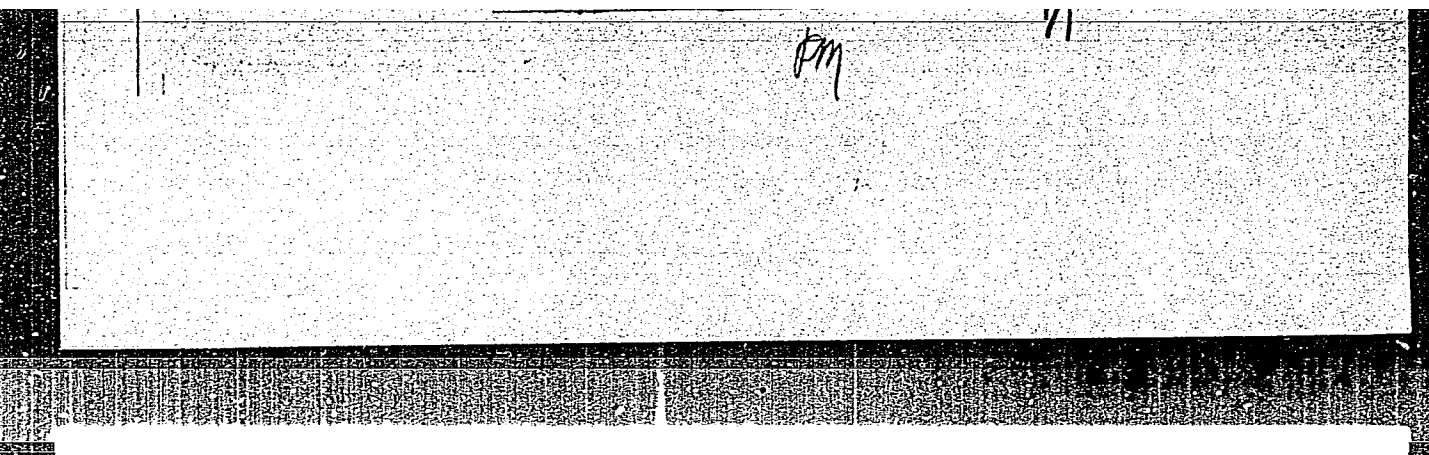
NaOH is as follows: $(O_2H_2C_6OC(O)S)_n$ and $Z.V.$
 $S_2 >$ acetylcellulose. I. Benecowitz

Distr: 4E4j/4E2c(j)

Structure and properties of cellulose and its esters.
LXIX. Synthesis of the phenyl ester of cellulose. Z. A.
Rogovin and T. V. Vladimirova (Textile Inst., Moscow).

"APPROVED FOR RELEASE: Tuesday, August 01, 2000

CIA-RDP86-00513R001445



APPROVED FOR RELEASE: Tuesday, August 01, 2000

CIA-RDP86-00513R0014451

ROGOVIN, L. A.

Relative reactivity of the hydroxyl groups of cellulose in methylation reactions. Z. A. Rogovin and W. Derevitskaya. *Faserforsch. u. Textiltech.* 8, 61-4 (1957).—By the prepn. of partially methylated cellulose and the subsequent detn. of the position of the MeO group in the glucose chain it is shown that the secondary OH groups are essentially more reactive than the primary ones. F. E. Brauns

Chen

ROGOVIN, Z. A., (Prof.)

"On Investigations in Obtaining Fluorine Containing Synthetic Carbon Chain
Fibres."

"On the Qualities of Methyl Carbonic Ether of Celluloses."

Inter-vuz Scientific Conference (Mezhvuzovskiye nauchnyye Konferentsii)

Vestnik Vysshey Shkoly, 1957, # 9, pp. 73 - 76 (USSR)

a

Abst: In January 1957, the Second All-Union Conference on Photosynthesis took place, organised by the Institute of Plant Physiology of the Academy of Sciences, USSR, and by the Faculty of Soil-Biology of the Moskva University. About 700 representative of 130 scientific-research institutes, vuzes and ministries were present. The introductory report was made by Academician A. L. Kursanov who described the development of photosynthesis during the last ten years and invited the scientists to concentrate their work on the application of radioactive and stable isotopes. Nearly 100 reports were read: 13 on photochemistry, 9 on the investigation of chloroplast structure, 19 on the investigation of pigments, 9 on the photosynthesis of water plants, bacteria, etc.

ROGOVIN, Z.A., professor.

Conference of the Chemical Society of the German Democratic
Republic. Khim.nauka 1 prom. 2 no.1:123-124 '57.

(MLRA 10:4)

(Germany, East--Macromolecular compounds)

ROGOVIN. Z.A.
TYUGANOVA, M.A.; ROGOVIN, Z.A.

Study of properties of cellulose esters and monothiocarbonic acid.
Khim. nauka i prom. 2 no.2:265-266 '57. (MIRA 10:7)

1. Moskovskiy tekstil'nyy institut.
(Esters) (Carbon dioxide) (Cellulose)

ZAZULINA, Z.A.; MARTSINKOVSKAYA, R.N.; ROGOVIN, Z.A.

Synthetic fiber "ftorlon". Tekst. prom. 17 no.5:6-7 My '57.
(Textile fibers, Synthetic) (MLBA 10:6)

ROGOVIN, Z. A.

ROGOVIN, Z. A., doktor tekhnicheskikh nauk.

The chemistry, physics, and technology of high molecular compounds;
ninth all-Union conference. Vest.AN SSSR 27 no.4:116-118 Ap '57.
(MLRA 10:5)

(High molecular weight compounds)

2000-08-01
ROGOVIN, Z.A., prof.

Reactivity of viscose. Bum. prom. 32 no.7:2-5 J1 '57. (MIRA 10:11)

1. Moskovskiy tekstil'nyy institut.
(Viscose)

ROGOVIN, KXX Z. A.

(The Moscow Textile Institute, Moscow, USSR)

"Synthesis of Some New Esters of Cellulose and Examination of Their Properties,"

paper submitted at Soviet High-Polymers, Intl. Conference, Nottingham, Uk, 21-24 July 1958.

E-3,109,661

ROGOVIN Z. A.

KARGIN, V.A.
5(3) P4 PHASE I BOOK EXPLOITATION SOV/1589

Akademika nauk SSSR.

Khimiya bol'shikh molekul; sbornik statey (Chemistry of Large Molecules; Collection of Articles) Moscow, Izd-vo AN SSSR, 1958. 279 p. (Series: Akademiya nauk SSSR. Nauchno-populyarnaya seriya) 30,000 copies printed.

Compiler: O.V. Sizovskiy; Resp. Ed.: A.V. Topchiyev, Academician; Ed. of Publishing House: V.A. Boyarskiy; Tech. Ed.: I.B. Guseva.

PURPOSE: This book is intended for a wide circle of readers including those who have had no training in chemistry. It can also serve as a manual for propagandists, teachers, and journalists.

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Chemistry of Large Molecules (Cont.) SOV/1589

COVERAGE: This collection of articles reflects the trend for the future development of the Soviet chemical industry as indicated by the May plenary session of the Central Committee of the Communist Party within the framework of the new Seven Year Plan. These articles were published in newspapers and journals. The authors, scientists and industry workers, developed the theme of accelerated development of the chemical industry and science. The articles cover the manufacture of synthetic fibers, plastics, and other materials. Some of the articles were abridged, revised, or enlarged. The articles were selected so as to give an adequate survey of the chemistry and technology of high-molecular-weight compounds and their use in industry, agriculture, and in the manufacture of consumers' goods. Mentioned are raw materials for the production of polymers. This book belongs to the popular-science series of the Academy of Sciences. Similar volumes are intended for future publication. No references are given.

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Chemistry of Large Molecules (Cont.)	SOV/1589
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AUTHORS: Rogovin, Z. A., Davydov, A. N., Tsarfin, Ya. A. 64-1-4/19
Morozova, N. V. Yerokhina, V. G.

TITLE: Rapid Method for the Acetylation of Cellulose in a Homogeneous Medium
(Bystriy metod atsetilirovaniya tsellyulozy v gomogennoy srede)

PERIODICAL: Khimicheskaya Promyshlennost', 1958, Nr 1, pp. 17-20 (USSR).

ABSTRACT: The cellulose acetylations which have hitherto been carried out in plants took from 8 - 12 hours. Therefore it was necessary to find a method of shorter duration. In the present paper a rapid method is suggested which refers among other things to some proposals of Thomas (reference 3) as being superfluous, so e. g. a pretreatment of cellulose with concentrated urea solution. The usual activation with glacial acetic acid at 60°C for 30 minutes is sufficient. Investigations of the influence of the acetylation temperature showed that a temperature of 70°C is not to be surpassed and that with a quantity of 0,3 percentages by weight of sulfuric acid as catalyst at 80°C the triacetylcellulose can be obtained within from 20 - 30 minutes. In order to obtain

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Rapid Method for the Acetylation of Cellulose
in a Homogeneous Medium

64-1-4/19

triacetylcellulose with sufficiently high molecular weight special attention must be paid to the composition of the mixture to be acetylated. Experimental results show that the decomposition of the obtained acetylcellulose is proportional to the added quantity of acetic acid, on the other hand, however, the procedure becomes too expensive in the case of an increase' addition of acetic anhydride, except the product is isolated in an arid medium so that no hydrolysis of the anhydride can occur. On the strength of various investigations a mixture of 50 - 60% of acetic anhydride and of 50 - 40% of acetic acid was found to be the optimum condition. In investigations of the catalyst quantity and its character it was found that the quantity must be reduced at increased temperature (from 1 - 1.5% to 0.3% in the case of sulfuric acid), aniline sulfate (0.6 percentages by weight) is assumed to be a better catalyst than the ammonium sulfate suggested by Thomas. The investigations are carried on in order to test them in the industrial scale and to obtain a further reduction of the acetic anhydride quantity.

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There are 3 tables, and 3 references, 2 of which are Slavic.

Rapid Method for the Acetylation of Cellulose
in a Homogeneous Medium

64-1-4/19

ASSOCIATION: Laboratory of the NIIPP at the Chemical Plant, Vladimir
(Laboratoriya NIIPP na Vladimirskom khimicheskom zavode)

AVAILABLE: Library of Congress.

1. Cellulose-Acetylation

Card 3/3

AUTHORS: Rogovin, Z. A., Zazulina, Z. A. 153-58-1-21/29

TITLE: Elaboration of Methods for Producing New Types of Synthetic Fibers (Razrabotka metodov polucheniya novykh tipov sinteticheskikh volokon)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, 1958, Nr 1, pp. 137-146 (USSR)

ABSTRACT: From the investigations carried out up till now in the USSR in view of producing new synthetic fibers, 2 types are above all of special interest: The production from modified polymers and copolymers of acrylonitril. Consequently: The obtaining of the fiber MTI-1 from the copolymer of acrylonitril and vinylidenechloride- and the fiber MTI-3 from polymetakrylonitril. (See tables 1 to 3 in this connection). The manufacture of the synthetic fiber MTI-2 (called "Ftorlon") has a great advantage: It produces a fiber of very great resistivity, also with respect to chemistry. This result was obtained by a comparative in-

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Elaboration of Methods for Producing New Types of Synthetic Fibers

153-58-1-21/29

vestigation of the methods of production and of the properties of these synthetic fibers. It was further proved that the use of polymakrylonitril is not very suitable for the manufacture of synthetic fiber (see table 6). The synthetic fiber MTI-2 is most resistant against chemical reagents. In this respect it beats all other known natural- and synthetic fibers. See tables 7,8 and 9 for the principal properties of the synthetic fiber MTI-2. There are 10 tables and 9 references, 8 of which are Soviet.

ASSOCIATION: Moskovskiy tekstil'nyy institut (Moscow Textile Institute) Kafedra iskusstvennogo volokna (Chair of Synthetic Fiber)

Card 2/2

AUTHORS: Rogovin, Z. A., Druzhinina, T. V. SOV, 156-58-1-34/46

TITLE: On the Determination of the Poly-Dispersion of the Stereo-Regular Polypropylene (Ob opredelenii polidispersnosti stereo-regulyarnogo polipropilena) 8th Communication of the Series "Investigations in the Field of Production of New Types of Carbo-Chain-Like Fibers" (8-ye soobshcheniye iz serii: "Issledovaniya v oblasti polucheniya novykh tipov karbotsepnnykh volokon")

PERIODICAL: Nauchnyye doklady vysshey shkoly, Khimiya i khimicheskaya tekhnologiya, 1958, Nr 1, pp. 139 - 142 (USSR)

ABSTRACT: The working out of the method of production of stereo-regular (isotactical) poly-olefines (Ref 1) and their use for the manufacture of products of high quality especially of solid synthetic fibers of poly-propylene (Ref 2) is one of the most important achievements in the modern synthetic chemistry of polymers. Recently, a number of articles have been published related to this subject (Ref 3). As yet, however, no method is known for determining the property referred to in the title. Poly-dispersion (polidispersnost') is of greatest importance for various classes of polymers, especially for the production

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On the Determination of the Poly-Dispersion of the Stereo-Regular Polypropylene. 8th Communication of the Series "Investigations in the Field of Production of New Types of Carbo-Chain-Like Fibers" SOV/156-58-1-34/46

of synthetic fibers. The authors worked out a method of fractionation of both the amorphous and crystalline fraction of polypropylene which allows a separated determination of the poly-dispersion of the two fractions. The poly-propylene-preparations were synthesized by B.A.Krentsel' in the laboratory of A.V.Topchiyev. An experimental part in which T.A.Aksenova took part, follows. It appears from the results (Table 1) that the investigated preparations of the amorphous polypropylene show a considerable poly-dispersion. Even with a separation of these preparations into 4 to 6 fractions the molecular weights differ by a factor of 10 - 12, for individual portions even by a factor of 20. The determination of the poly-dispersion of the crystalline poly-propylene by fractionized sedimentation meets with considerable experimental difficulties. In order to overcome these obstacles, the crystalline poly-propylene was fractionized by means of successive dissolution at different temperatures. This has been achieved by a treatment with white spirit (uayt-spirit)(fraction with a boiling temperature of from 170 to 180° at steadily increasing temperatures

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On the Determination of the Poly-Dispersion of the Stereo-Regular Polypropylene. 8th Communication of the Series "Investigations in the Field of Production of New Types of Carbo-Chain-Like Fibers" SOV, 156-58-1-34/46

(20 to 100°). The solution was decanted after each treatment and the deposit was treated with the previous solvent, but at a higher temperature. From 6 to 7 fractions were obtained in this way. Table 2 shows some results obtained by this method. It hence results that the poly-dispersion of the crystalline poly-propylene-preparations is smaller than that of the amorphous one. The solubility of the individual poly-propylene-fractions in organic solvents does not only depend on their molecular weight, but also on the structure of the macro-molecules and on the structure of the polymer. There are 2 tables and 4 references.

ASSOCIATION: Kafedra iskusstvennogo volokna Moskovskogo tekstil'nogo instituta (Chair of Synthetic Fiber at the Moscow Textile Institute)

SUBMITTED: October 12, 1957
Card 3/4

SOV/156-58-2-4c/48

AUTHORS: Rogovin, Z. A., Kovarskaya, B. M.

TITLE:

Investigation of the Thermomechanical Properties of Stereoregular Polypropylene (Issledovaniye termomekhanicheskikh svoystv stereoregulyarnogo polipropilena) (9. Publications from the Series "Investigations in the Field of the Production of New Types of Carbochain-Fibers") (9-ye soobshcheniye iz serii "Issledovaniya v oblasti polucheniya novykh tipov karbotsepykh volokon")

PERIODICAL:

Nauchnyye doklady vysshey shkoly. Khimiya i khimicheskaya tekhnologiya, 1958, Nr 2, pp. 361 - 364 (USSR)

ABSTRACT:

The determination of the change of elasticity as well as of fluidity of the plastic at increased temperatures of processing plays an important role in the investigation of the properties of the polypropylene mentioned in the title. The determination of the influence of its molecular weight and the phase state (whether amorphous or crystalline) is of equal importance for the change of the mentioned properties. The optimum parameters of the technological process cannot be determined without a sufficient study of the

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Investigation of the Thermomechanical Properties of Stereoregular Polypropylene. (9. Publications From the Series "Investigations in the Field of the Production of New Types of Carbochain-Fibers") SOV/156-58-2-40/48

mentioned problems. For this reason these factors are investigated in detail. In order to determine the characteristics of fluidity at increased temperatures the Kargin (Refs 1-3) dynamometric balance was used. The determinations were carried out under the action of a permanent stress ($\sigma=0,3$ kg/cm²) on a standard sample (diameter: 10 mm, height: 5 mm) during 10 seconds. A polypropylene preparation produced by Krentsel and his collaborators in the Topchiyev Laboratory served as base material. The amorphous product was isolated by extraction with toluene at 20° from the propylene sample. Fractionation was carried out according to a method due to the second author (Ref 4). On figure 1 the thermomechanical curves of the individual amorphous fractions which deviate from each other by up to 30 times (as to the value η) are shown. The authors draw the following conclusions from the results: 1) It was proved that the increase of the molecular weight of the amorphous as well as of the crystalline polypropylene considerably influences the increase of temperature

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Investigation of the Thermomechanical Properties of SOV/156-58-2-40/48
Stereoregular Polypropylene. (9. Publications From the Series "Investigations
in the Field of the Production of New Types of Carbochain-Fibers")

of its fluidity. 2) As is the case with other polymers
also here a difference in the character of the curves of
the amorphous fractions on the one hand and of the crystalline
fractions on the other hand was observed. The determination
of the shape of these curves may furnish one of the criteria
of the phase state of those fractions which are isolated
from stereoregular synthetic polymers. L.A. Fedorova collaborated
in the experimental part of the investigations. There are
2 figures and 4 references, which are Soviet.

ASSOCIATION: Kafedra iskusstvennogo volokna Moskovskogo tekstil'nogo
instituta (Chair of Plastic Fibers of the Moscow In-
stitute of Textiles)

SUBMITTED: December 23, 1957

Card 3/4

Rogovin, Z.A.

AUTHOR: Rogovin, Z.A., Doctor of Technical Sciences 25-58-3-8/41

TITLE: Synthetic Fibers (khimichēskiye volokna)

PERIODICAL: Nauka i Zhizn', 1958, Nr 3, pp 23-26 (USSR)

ABSTRACT: High-molecular compounds - the so-called polymers - are obtained by means of chemical synthesis. These form the basic material for all kinds of synthetic fibers. During the past 2-3 years, methods have been developed in the USSR and US to obtain fibers from polymers containing fluorine. They have proved to be resistant to 100% nitric acids and other powerful oxidizing agents. In the course of the next few years, the production of synthetic fibers will be intensified in the USSR, and in 1960 the output will be twice as much as in 1955. There are three sketches.

AVAILABLE: Library of Congress

Card 1/1 1. Synthetic fibers-Development

KOTOMINA, I.N.; ROGOVIN, Z.A.; LARIN, P.S.

Properties of viscose cellulose related to the location of the
original spruce wood in the tree. Khim.volok. no.3:27-31
'58. (MIRA 12:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut iskusstvennogo
volokna (VNIIV).
(Cellulose)

5(3)

SOV/153-58-3-26/30

AUTHORS: Tyuganova, M. A., Rogovin, Z. A.

TITLE: Comparative Investigations of the Properties of Cellulose Xanthate and Monothiocarbonate (Sravnitel'nyye issledovaniya svoystv ksantogenata tsellyulozy i monotiokarbonata tsellyulozy)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, 1958, Nr 3, pp 153-159 (USSR)

ABSTRACT: Many investigations deal with the study of the cellulose xanthates (acid cellulose ester of the dithio carbonic acid) (Ref 1). However, also other cellulose esters have those advantages to which the xanthate owes its wide use in the production of viscose fibers (easy saponification, solubility in inexpensive and easily accessible solvents). The so-called monothiocarbonate (cellulose monothio carbonic acid ester) must be mentioned first of all. It is synthesized by the action of carbon oxy-sulfide (COS) on alkaline cellulose (Refs 2-6). Until now no systematic investigations of the properties of the monothiocarbonate with respect to the production of hydrate cellulose yarns and films have been carried out.

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SOV/153-58-3-26/30

Comparative Investigations of the Properties of Cellulose Xanthate and Monothiocarbonate

The use of COS instead of CS₂ for the production of water-soluble unstable cellulose esters in diluted alkalies can offer several advantages. The subject mentioned in the title can also be of theoretical interest, as the character of the influence of the acid radical upon the properties of the cellulose ester produced and its stability to various actions can be clarified. In the experimental part first the conditions are described under which a completely soluble monothiocarbonate could be produced. In this production alkali cellulose was put into a glass ampoule in which the necessary COS amount was condensed at -70°. The esterification was carried out at 0°. On the basis of the results obtained the authors arrived at the following conclusions: 1) The stability of the cellulose monothiocarbonate and of its solutions is less than that of cellulose xanthate and its solutions. 2) The following factors accelerate the ripening of the monothiocarbonate solutions: a) Temperature drop from 18 to 0°. After 48-72 hours the solution can be worked up (Fig 1). b) The increase of the

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NOV/1955-55-4-26/40

On the question of the properties of cellulose acetate and
cellulose propionate

At the same time, the stability of the solutions as well as that of mono-
cellulose acetate shows some degradation (Table and Fig 2).
The stability of the solutions of the cellulose esters can be
increased by the substitution of the CH_3 group by the C_2H_5
group in the radical of the monocarboxylic acid. 3) The authors
succeeded for the first time in synthesizing the disulfide of
cellulose monothiocarbonate. It is even more resistant to
acid and alkalis than acetyl cellulose, and can be used for
many purposes. There are 6 figures, 1 table, and 8 references,
4 of which are Soviet.

Author: Moscow Textile Institute (Moscow Textile Institute);
Kafedra iskusstvennykh volokna (Chair of Synthetic Fibers)

Date: November 4, 1955

AUTHORS: Rogovin, Z. A., Zazulina, Z. A.,
Mratsinkovskaya, R. N., Sergeyenko, D. I. SOV/64-58-5-2/21

TITLE: The Production of the Polymethacrylonitrile ~ Fiber and the
Investigation of Its Properties (Polucheniye volokna iz
polimetakrilonitrila i issledovaniye yego svoystv)

PERIODICAL: Khimicheskaya promyshlennost', 1958, Nr 5, pp. 267 - 269 (USSR)

ABSTRACT: Quite a number of experiments relating to the use of copoly-
mers, which are e.g. soluble in acetone have been carried out,
for the polyacrylonitrile-fiber, which is, at present, one of
the most common due to its good properties in practical use,
on the other hand has the disadvantage that the use of a solvent,
dimethylformamide, which is comparatively not easily accessible,
is necessary. In this series, the derivative mentioned in the
title is investigated in the present paper, in connection with
which theoretical problems about the influence exercised by the
chemical structure on the properties of the polymer can be
solved at the same time. Kern and Fernow (Ref 3), as well as
Hunyar, Reichert and Fark (Ref 4) have already carried out ex-
periments with polymethacrylonitrile (PMAN) and polyacrylo-
nitrile (PAN). Acetone and HCN were used as initial raw materials

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The Production of the Polymethacrylonitrile-Fiber
and the Investigation of Its Properties

SOV/64-58-5-2/21

for PMAN, and the acetonecyanhydrine was dehydrogenized with P_2O_5 , while polymerization was carried out according to the static method.

Working conditions are given by which a product with a molecular weight of 400000-600000 was obtained and the latter was determined by viscometric measuring and the equation developed by Staudinger. In acetone the product was dissolved, on which occasion a strong influence could also be observed to be exercised by the character of the solvent. In comparing the properties of the fiber of PMAN and PAN it was observed that the thermal resistance as well as the chemical of the former is much lower. The light-resistance, the mechanical properties, as well as the modulus of elasticity are also lower with PMAN than with PAN, so that it may be assumed that the substitution of hydrogen by the methyl-group in acrylonitrile leads to a decrease of intermolecular interaction and also to an abrupt change of the properties of the polymer. The fiber obtained is apparently of no practical use. There are 2 tables and 5 references, 3 of which are Soviet.

Card 2/3
2

5(1) 15(8)

AUTHORS: Venediktov, S. P., Landysheva, V. A.,
Rogovin, Z. A.

SOV/64-58-5/19

TITLE: ~~A New Method for Determining the Chemical and Physical~~
Heterogeneity of Acetone-Soluble Acetyl Cellulose (Novyy
metod opredeleniya khimicheskoy i fizicheskoy neodnorodnosti
atsetonorastvorimoy atsetiltseillyulozy)

PERIODICAL: Khimicheskaya promyshlennost', 1958, Nr 8,
pp 470 - 472 (USSR)

ABSTRACT: The fractions of acetyl cellulose (I) from technical pre-
parations differ in the size of their molecules and in the
degree of esterification of the triacetyl cellulose. Since
the methods of determining this heterogeneity (Ref 1) are
too complicated for use under operating conditions, the
evaluation of acetate fibers during the production process
is confined to evaluating its low-molecular fraction content.
This is stated as being not enough, since in order to obtain
a clear picture of the technical fiber-forming properties
of (I) it would also be important to evaluate the high-
molecular fractions. Therefore, it is suggested (1) to

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A New Method for Determining the Chemical and Physical Heterogeneity of Acetone-Soluble Acetyl Cellulose SOV/64-58-8-5/19

determine the low-molecular fraction content by the current method (treatment with a 55% acetone-water mixture); (2) to determine the high-molecular fraction in the following way: (I) dissolve e.g. in a 58% acetone - water mixture at 60° and then cool to 20° so that the high-molecular fraction is precipitated and can be determined; (3) to determine the low-acetyl fraction by treating (I) with boiling ethanol; (4) to determine the high-acetyl fraction content by treating (I) with methylene chloride. The method of analysis is described, and analysis data for four samples of (I) are given (Table). There are 1 table and 4 Soviet references.

Card 2/2

AUTHORS: Rogovin, Z.A., Mirlas, D.L. SOV/63-3-6-33/43

TITLE: Production of Cellulose Sulfate and Investigation of Their Properties (Polucheniye sul'fatov tsellyulozy i issledovaniye ikh svoystv.)

PERIODICAL: Khimicheskaya nauka i promyshlennost', 1958, Vol III, Nr 6, pp 831-852 (USSR)

ABSTRACT: The application of some water- and alkali-soluble cellulose derivatives is limited by the complicated methods of their production. It is proposed to use cellulose sulfate which may be produced by esterification in a heterogeneous medium using a binary mixture of sulfuric acid and a monoatomic alcohol. The relative stability of cellulose sulfate and acetylcellulose is shown in a table. It has been proved by experiment that the water-soluble cellulose sulfate may be used for the same purposes as the other water- and alkali-soluble esters of cellulose.

There is 1 diagram, 1 table and 5 references, 4 of which are Soviet and 1 American.

~~00-1172~~

*Vladimir Chemical Plant.
Moscow Textile Inst.*

ROGOVIN, Z.A.; POGOSOV, Yu.L.

Investigating the process of the hydrolysis of cellulose by
means of hydrofluoric acid. *Gidroliz. i lesokhim. prom.* 11 no.1:4-6
'58. (MIRA 11:2)

1. Moskovskiy tekstil'nyy institut.
(Cellulose) (Hydrolysis) (Hydrofluoric acid)

IONOVA, T.V.; UZINA, R.V.; BOGOMOLOVA, N.A.; MOGILEVSKIY, Ye.M.; ROGOVIN, Z.A.

Effect of the chemical composition of reagents on the bond strength
between viscose cord thread and rubber. Tekst. prom. 18 no.8:35-37
Ag '58. (MIRA 11:10)

(Rayon) (Textile chemistry) (Tires, Rubber)

69-20-3-19/24

AUTHORS: Rogovin, Z.A.; Mirlas, D.L.

TITLE: The Effect of the Regularity of Structure of Triacetyl Cellulose on Its Solubility and on the Properties of Its Solutions (Vliyaniye regul'yarnosti stroeniya triatsetiltsellyulozy na yeye rastvorimost' i svoystva poluchayemykh rastvorov)

PERIODICAL: Kolloidnyy zhurnal, 1958, vol XX, Nr 3, pp 376-381 (USSR)

ABSTRACT: The regularity of the macromolecular structure of a polymer determines its solubility, heat, wear resistance, etc. A change in the regular structure of a macromolecule causes also the gelatinization of triacetylcellulose solutions which have been produced by acetylating of cellulose in a homogeneous medium in the presence of HClO_4 as catalyst in an acetylating mixture. The gelatinization hampers the production of highly-stable triacetates by means of acetylating of cellulose in the presence of acetic acid as a solvent. Gelatinization does not take place: 1) if acetic acid in the acetylating mixture is completely or partially replaced by other solvents, especially chlorine derivatives, like dichlorethane and methylene chloride; 2) if as a catalyst during acetylation chloric acid is replaced by sulfuric acid.

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69-20-3-19/24

The Effect of the Regularity of Structure of Triacetyl Cellulose on Its Solubility and on the Properties of Its Solutions

in large quantities (10 - 15% of the cellulose weight). The speed of gelatinization depends on the concentration of the cellulose, i.e. the lower the concentration, the lower the speed. An increase of solubility in acetic acid and the elimination of the danger of gelatinization is attained by the formation of sulfoacetates of the cellulose. Producing mixed cellulose esters by acetylating cellulose with a mixed catalyst ($\text{HClO}_4 + \text{HNO}_3$) increases the solubility in acetic acid by breaking the regularity of the macromolecular structure. Gelatinization is impeded by this process. There are 3 tables and 4 references, 3 of which are Soviet and 1 English.

ASSOCIATION: Vladimirskiy khimzavod, Tsentral'naya zavodskaya laboratoriya
(Vladimir Chemical Plant, Central Plant Laboratory)

SUBMITTED: September 30, 1957

Card 2/2

1. Triacetyl cellulose--Structure 2. Solubility--Applications
3. Solutions--Properties

ROGOVIN, Z.A., doktor tekhn. nauk.

Synthetic fibers. Nauka i zhizn' 25 no.3:23-26 Mr '58. (MIRA 11:4)
(Textile fibers, Synthetic)

ROGOVIN, Z. A.
AUTHOR?

Rogovin, Z. A., Doctor of Technical Sciences

30-1-7/39

TITLE:

Some Tasks of Research Concerning the Problem of
Chemical Fibres (Nekotoryye zadachi issledovaniy po
probleme khimicheskikh volokon)

PERIODICAL:

Vestnik AN SSSR, 1958, Vol. 28, Nr 1, pp. 45-53 (USSR)

ABSTRACT:

The increase and the improvement of the production of
chemical fibres depends on the success achieved by modern
polymer chemistry and physics. The Institute for Organic
Elementary Compounds AN USSR (A. M. Resmeyerov and R. Kh.
Freydlina), the Allunion Scientific Research Institute for
Artificial Fibres (A. A. Strepikheyev) and the State-
-controlled Scientific Research- and Planning Institute
of the Nitrogen Industry (G.B. Ovakiyan) developed new
types of fibres. The volume of these works, however, does
not correspond to the tasks to be performed. The industry
of chemical fibres develops intensively. In the field of
technological processes a considerable simplification and
reduction of costs of production was achieved. There are
prospects for a thorough reconstruction of the production
of acetyl cellulose and acetate fibres, so that costs of

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Some Tasks of Research Concerning the Problem of Chemical
Fibres

30-1-7/39

production would be considerably reduced as was proved by Z. A. Rogovin in his work. [Ref. 1]. The obtaining of block polymers, especially by the application of mechanical-chemical processes (V. A. Kargin, E. M. Kovarskaya, L. I. Golubenkova, M. S. Akutin, G. L. Slonimskiy, and A. A. Berlin, [Ref. 2] makes it possible to change the properties of polymers in such a degree as was hitherto considered impossible theoretically. Since several years a number of interesting investigations has been carried out, as described by R. Kh. Freydlina and Ye. I. Vasil'yeva in their work. [Ref. 6]. In table 1 the properties of the fibres of polypropylene and other chemical fibres are compared. The result obtained by the latest research work made it possible to increase the strength of chemical fibres considerably, as may be seen from table 2. In table 3 the thermal strength of certain chemical types of fibres is mentioned, and it is said that this field has not yet been sufficiently well cleared up and must therefore be looked upon as an important problem to be solved in the future. There are 3 tables.

AVAILABLE:
Card 2/2

Library of Congress

1. Chemicals-Production 2. Organic compounds 3. Fibers-Production

AUTHORS:

Derevitskaya V., Prokof'yeva M.

79-28 3-35/61

TITLE:

~~Bogovin, Z.~~
Investigation of the Comparative Reactivity of the Hydroxyl Groups of Cellulose (Issledovaniye sravnitel'noy reaktsionnoy sposobnosti gidroksil'nykh grupp tsellyulozy). V. On the Distribution of the Methoxy Groups in the Partially Methylated Cellulose Which was Obtained in an Alkaline Medium With Different Concentrations of Alkali Liquor (V. O raspredelenii metoksil'nykh grupp v chastichno metilirovannoy tsellyuloze, poluchennoy v shchelochnoy srede pri razlichnoy kontsentratsii shchelochi)

PERIODICAL:

Zhurnal Obshchey Khimii, 1958, Vol. 28, Nr 3, pp. 716-718 (USSR)

ABSTRACT:

In an earlier work by the authors (Ref. 1) they reported on the results of the investigation of the reactivity of the hydroxyl groups in cellulose on the action of an 18% alkali liquor, as well as on the subsequent methylation. In the present work the reaction with 8, 13 and 40% liquor was carried out. The alkaline cellulose was squeezed to one third of its weight in order to liberate it from adsorbed

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Investigation of the Comparative Reactivity of the Hydroxyl Groups of Cellulose. V. On the Distribution of the Methoxy Groups in the Partially Methylated Cellulose Which was Obtained in an Alkaline Medium With Different Concentrations of Alkali Liquor

79-28 3-35/61

alkali, then it was washed with dry isobutylalcohol and finally it was methylated. In some cases also the squeezed, but not yet washed alkalicellulose was methylated. The four tables give information on the methylation results of alkalized cellulose; they read: The distribution of the methoxy groups was investigated in the partially methylated cellulose which had been obtained by the action of methyl iodide on the alkalized cellulose with concentration of the liquor taken for the production of alkali cellulose (from 8-40%). The formation of the reaction of alkali cellulose and the subsequent methylation takes place at the expense of the secondary hydroxyl groups most markedly with a liquor concentration of 40%. In the methylation of the not washed alkali cellulose obtained by the action of a 40% alkali solution the authors obtained a methyl cellulose with a considerably greater content of alkali cellulose than is the case with methyl cellulose resulting from the methylation of a washed alkali cellulose; this is tentatively explained by an occurring alcoholysis of the alkali-

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Investigation of the Comparative Reactivity of the Hydroxyl Groups of Cellulose. V. On the Distribution of the Methoxy Groups in the Partially Methylated Cellulose Which was Obtained in an Alkaline Medium With Different Concentrations of Alkali Liquor 79-28-3-35/61

cellulose. (Isobutylalcohol being used in the washing of the adsorbed alkali!).
There are 4 tables and 2 references, 1 of which is Soviet.

ASSOCIATION: Moskovskiy tekstil'nyy institut (Moscow Textile Institute)

SUBMITTED: January 17, 1957.

Card 3/3

AUTHORS: Derevitskaya, V., Prokof'yeva, M.,
Rogovin, Z.

79-28-3-36/61

TITLE: Investigation of the Comparative Reactivity of the Hydroxylgroups of Cellulose (Issledovaniye sravnitel'noy reaktsionnoy sposobnosti gidroksil'nykh grupp tsellyulozy). VI. On the Distribution of the Methylation Products of the Na-Alcoholate of Cellulose (VI. O raspredelenii metoksil'nykh grupp v produktakh metilirovaniya Na-alkogoliyata tsellyulozy)

PERIODICAL: Zhurnal Obshchey Khimii, 1958, Vol. 28, Nr 3, pp. 718-721 (USSR)

ABSTRACT: Although the formation of the alcoholate of cellulose in liquid ammonia has been investigated by many scientists there has been no clear data on the reactivity of the cellulose hydroxyl groups in the reaction with metallic Na so far. The authors tackled this task. The synthesis of the alcoholate and the measurement of the velocity of the formation of hydrogen was carried out according to Shorygin (Ref. 2). The experiments were made with ground

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Investigation of the Comparative Reactivity of the Hydroxylgroups of Cellulose. VI. On the Distribution of the Methylation Products of the Na-Alcoholate of Cellulose.

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sulfitcellulose and viscose rayon. The duration of the formation of each β -hydrogen atom by the action of Na on the cellulose with various concentrations of this body was determined. Depending on the quantity of the introduced sodium this velocity changed; the ratio between the duration of the formation of the first, second and third β -hydrogen atom ($\tau_1 : \tau_2 : \tau_3$) remained, however, practically constant (tables 1, 2). The summary reaction velocity and the ratio $\tau_1 : \tau_2 : \tau_3$ depend on the character of the cellulose preparation. The velocity of formation of the first β -hydrogen atom exceeds that of the third β -atom 16-18 fold in the action of sodium on viscose rayon, in the case of the ground cellulose 7-8 fold, the different summary reaction velocity playing a rôle. The authors assume that the great difference in the velocities of formation of the 3 β -hydrogen atoms in this reaction must be explained by the different reactivity of the hydroxylgroups of cellulose, for which reason the distribution of sodium in the elementary members of the monocalcholate

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Investigation of the Comparative Reactivity of the Hydroxylgroups of Cellulose. VI. On the Distribution of the Methylation Products of the Na-Alcoholate of Cellulose

79-28-3-36/61

of cellulose had to be determined. Therefore a methylation of the alcoholates was carried out at $\gamma = 100-200$ (γ = content of alcoholate in relation to sodium) and the distribution of the methoxylgroups in the synthesized methylcelluloses was determined. Before this the ammonia was completely removed by blowing with dry nitrogen. The methylation took place with methyl iodide in the course of 12 hours, a methyl cellulose with a very small content of methoxylgroups (1,6 - 2%) having been obtained. By repeating the sodiumammonia treatment and the methylation this content was increased. The results of methylation show (table 3) that the formation of the alcoholate and the methylation take place exclusively at the expense of the secondary hydroxyl groups; the further reaction of the formation of the alcoholate at $\gamma > 100$ and its methylation takes place at the expense of the primary hydroxyl group of the cellulose. There are 3 tables and 5 references, 2 of which are Soviet.

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Investigation of the Comparative Reactivity of the Hydroxylgroups of Cellulose. VI. On the Distribution of the Methylation Products of the Na-Alcocholate of Cellulose.

79-28 3-36/6:

ASSOCIATION: Moskovskiy tekstil'nyy institut (Moscow Textile Institute)

SUBMITTED: January 17, 1957.

Card 4/4

AUTHORS: Derevitskaya, V., Prokof'yeva, M., 79-28-5-58/69
Rogovin, Z. A.

TITLE: Investigation of the Comparative Reactivity of
the Hydroxyl Groups of Cellulose (Issledovaniye
sravnitel'noy reaktsionnoy sposobnosti gidroksil'nykh
grupp tsellyulozy)
VII. On the Distribution of the Methoxyl Groups in the
Partially Methylated Cellulose obtained from Cellulose
Treated With Sodiumisoamylate (VII. O raspredelenii
metoksil'nykh grupp, v chastichno metilirovannoy
tsellyuloze, poluchennoy iz tsellyulozy, obrabotannoy
izoamilatom natriya)

PERIODICAL: Zhurnal Obshchey Khimii, 1958, Vol. 28, Nr 5,
pp. 1368-1371 (USSR)

ABSTRACT: Starting from the condition that in cellulose only one
hydroxyl group with increased acidous properties exists,
the formation of an alcoholate can be expected not only
by the direct action of metallic sodium but also by means
of a conversion with an alcoholate of ordinary alcohol.

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Investigation of the Comparative Reactivity of the
Hydroxyl Groups of Cellulose.
VII. On the Distribution of the Methoxyl Groups in the
Partially Methylated Cellulose obtained from Cellulose
Treated With Sodiumisoamylate

79-28-5-58/69

The experiments by Rassow and Wadewitz (reference 1) to obtain a sodium alcoholate of cellulose this way were not successful probably because they carried out the reaction at a great excess of alcohol which had to lead to an alcoholysis of the formed cellulose alcoholate. In order to avoid this it was necessary to use a sodium alcoholate dissolved in inert solvents. In the present paper a sodium derivative of cellulose was obtained by the action of sodiumisoamylate on cellulose in an inert solvent. Cotton cellulose served as initial substance, which had earlier ~~been~~ treated with alkali and finally had been included (reference 3). In this conversion only that cellulose treated the alkaline way proved to be reactive. The alcoholate of cellulose experimentally produced in two different ways was then methylated with methyl iodide. In order to determine the distribution of the methoxyl groups in methylcelluloses

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Investigation of the Comparative Reactivity of the Hydroxyl Groups of Cellulose.

79-28-5-58/69

VII. On the Distribution of the Methoxyl Groups in the Partially Methylated Cellulose obtained from Cellulose and Treated With Sodiumisoamylate

the number of free primary hydroxyl groups was calculated by means of "tritylization" (~~metodom~~ tritilirovaniya) (table 2). In the reaction of cellulose with Na-isoamylate and subsequent methylation the secondary hydroxyl groups have a greater reactivity than the others. The average number of methoxyl groups per secondary carbon atom exceeds that of the methoxyl groups at the primary carbon atom by the 2.5-times. There are 2 tables and 6 references, 2 of which are Soviet.

ASSOCIATION: Moskovskiy tekstil'nyy institut
(Moscow Textile Institute)

SUBMITTED: January 17, 1957

Card 3/3

Rogovin, Z.A.

AUTHOR: Rogovin, Z.A., Professor (Moscow)
 TITLE: Chemical Fibers (Khimicheskiye volokna)
 PERIODICAL: Priroda, 1958, ^{V-47}Nr 6, p 3-8 (USSR)

26-58-6-1/56

ABSTRACT: Within the next seven years, the production of chemical fibers in the Soviet Union will increase 4.6 times, especially fibers obtained from synthetic polymers, the so-called synthetic fibers. At present, the viscose fiber is the most common type. The production methods of this fiber have been simplified over the past 5-8 years to such an extent that Soviet plants can now obtain the spinning liquid from cellulose by means of one single apparatus (VA) in one process in 6-8 hours. The strength of viscose cord thread has also improved considerably. As to the new types of synthetic fibers lately developed by Soviet scientists, Ftorlon, a product similar to the American Teflon is mentioned. Ftorlon, which is obtained from fluorine containing copolymers, has a fiber of greater strength than Teflon and is of equal chemical stability. It can be used at temperatures of up to 120 - 130° C. Production methods for fibers from products of the polymerization of ethylene, propylene and other petroleum gases were not taken up until quite recently. There is one table.

Card 1/1

1. Chemistry-USSR 2. Synthetic fibers-Production

ROGOVIN, Z.A.

"Neue Methoden zur Modifizierung der Eigenschaften von Cellulose
und anderen Polysacchariden."

report presented at the Intl Symposium on Macromolecules, Wiesbaden, Germany, 12-27 Oct '59.

ROGOVIN, Zakhar Aleksandrovich, prof.; FAYNBOYM, I.B., red.; SAVCHENKO,
Ye.V., tekhn.red.

[Role of polymers in the national economy] Rol' polimerov v
narodnom khoziaistve. Moskva, Izd-vo "Znanie," 1959. 28 p.
(Vsesoyuznoye obshchestvo po rasprostraneniю politicheskikh
i nauchnykh znaniy. Ser.9. Fizika i khimiya, no.1) (MIRA 12:3)
(Synthetic products)

5(1)

PHASE I BOOK EXPLOITATION

SOV/2867

Vol'fkovich, S. I., Z. A. Rogovin, Yu. P. Rudenko, and
I. V. Shmanenkov

Obshchaya khimicheskaya tekhnologiya, t. 2 (General Chemical Technology, Vol 2) Moscow, Goskhimizdat, 1959. 848 p. Errata slip inserted. 25,000 copies printed.

Ed. (Title page): S. I. Vol'fkovich, Academician; Eds. (Inside book):
N. S. Avramova and G. P. Luchinskiy; Tech. Eds.: V. F. Zazul'skaya
and P. V. Pogudkin.

PURPOSE: The book is intended as a standard reference on general chemical technology for students at chemical and technological institutes as well as for chemistry departments of universities and polytechnic vuzes. The text may also serve as a manual for engineers and technicians in industrial enterprises and for personnel of scientific research institutes.

COVERAGE: The book, the second of two volumes on general chemical technology, describes electrothermal processes, technology of silicates, production of ferrous, nonferrous, and rare metals,

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General Chemical Technology, Vol 2

SOV/2867

the technology of nuclear processes, basic organic synthesis, and high molecular weight compounds. Concise information on fine chemical technology and the dyestuff industry is also given. Chapters XX-XXII of Part 6, Section 1 and 2 of Chapter XXIX, Part 9, Section 3 of Chapter XXXVII, Part 10, and Chapter XLVI were written by S. I. Vol'fkovich. Chapters XXIII-XXVII (except Section 3 of Chapter XXIV) and Chapter XXVIII (except Section 6) were written by I. V. Shmanenkov; Chapters XXII-XXXVIII, by Yu. P. Rudenko; Chapters XL - XLIV, by Z. A. Rogovin. Sections of the course which had not been included in the original program of Volume II were written by the following authors: Section 6 of Chapter XXVIII, by N. M. Sobinyakova; Section 3 of Chapter XXIX, Chapter XXX and Sections 1, 2, and 4 of Chapter XXXI, by Yu. I. Karyakin and A. I. Kitaygorodskiy; Section 3 of Chapter XXXI, by Ye. P. Dergunov; Chapter XXXIX, by M. A. Chekalin; Section 3 of Chapter XXIV and Chapter XLV, by M. M. Gol'dberg. The authors thank P. P. Budnikov, N. N. Vorozhtsov, N. A. Dolezhal', V. S. Yemel'yanov, O. Ye. Zvyagintsev, P. Ye. Kazaryan, S. V. L'vov, N. N. Postnikov, N. V. Solomin, G. V. Uvarov, I. I. Yukel'son, S. D. Evenchik. The authors also thank P. P. Sergeyev /deceased/ for preparing the section, "Basic Organic Synthesis." References accompany each chapter.

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